

# ATS Hub Ideas Challenge Overview



## ATS Hub Ideas Challenge

As emerging technologies (e.g. artificial intelligence, etc.) reshape the workforce, employers increasingly prioritize durable skills such as critical thinking, collaboration, and self-direction. Yet many learning experiences remain focused on content acquisition, without sufficient attention to developing these competencies or empowering student agency, leaving a growing disconnect between what students learn in school and the skills needed for future careers. To improve student outcomes in college, career, and life, students must be equipped with executive functioning capacities and durable, future-ready skills that will prepare them for success.

The ATS Hub is hosting a virtual, crowdsourced ideas challenge open to the public to address this critical need. The guiding question of the challenge is: What breakthrough, highly scalable ideas (model, policy, system, or tool) could foster every learner's agency, durable skills and/or executive functioning skills while building academic content knowledge?

The goal is to identify novel ideas grounded in or informed by evidence that have the potential to be transformed into scalable solutions. Ideas must be supported by peer-reviewed scientific research, practice-based insights, or documented patterns from the field. The Discovery Phase will help teams develop and strengthen their theory of change.

Through three competitive phases, participants will engage in learning opportunities with industry leaders, receive mentoring and support for further development of their ideas, and complete activities in preparation for developing applications to submit to formal funding opportunities to implement and test their ideas. Participants that advance to the Prize Phase of the challenge will also receive \$10,000 to support their idea, and three winners will each receive a prize of \$50,000.

Eligible applicants include, but are not limited to, individuals, nonprofit and for-profit organizations and public and private entities and institutions, such as colleges and universities. Applications are encouraged from individuals and organizations that have not traditionally participated in education research. We welcome ideas with varying degrees of evidence support, from those supported by preliminary observations or practice-based insights to those grounded in peer-reviewed scientific research, as long as applicants are committed to strengthening their theory of change throughout the challenge process. All participants must be located in a U.S. state or territory and proposed ideas must be relevant to education in the United States and must address factors under the control of U.S. education systems.

The Ideas Challenge will launch in Summer 2026 and conclude in Spring 2027. The challenge will be divided into three competitive phases: Open, Discovery, and Prize. Submissions will be accepted across three life stage tracks: Early Childhood and K-5, 6 - 12, and Postsecondary + Adulthood.

# I. Open Phase

The Ideas Challenge application portal will open on June 24, 2026 to initiate the Open Phase. The Open Phase serves as the initial application period for the ATS Hub Ideas Challenge, inviting the public to submit a compelling idea for a model, policy, system or tool. Participants will submit their ideas via an online form detailing their concept overview and team expertise.

## Open Phase Online Form

### 1. General Information:

- a. Project Title (8 words max): Provide a short title for your idea.
- b. Challenge Track: Select the specific challenge track it addresses.
  - i. Early Childhood and K-5
  - ii. 6-12
  - iii. Postsecondary + Adulthood

### 2. Concept Overview:

Answer the questions as if you are explaining to a friend outside education.

- a. Problem Statement (75 words max): Clearly define the problem or opportunity being addressed and its relevance to the ATS mission and goals.
- b. Description of Proposed Solution (150 words max): What are you trying to do? Articulate your objectives using absolutely no jargon.
- c. Originality (50 words max): How is it done today, and what are the limits of current practice?
- d. Innovation (50 words max): What is new in your approach and why do you think it will be successful?
- e. Impact (50 words max): Who cares? If you are successful, what difference will it make on students' education outcomes?
- f. Evidence-Informed: 1-2 sources of evidence (peer-reviewed scientific research, practice-based insights, or documented patterns from the field). At least one of these sources must be a peer-reviewed citation.

Sources of Evidence	Relevant Outcome(s)/Finding(s)

### 3. Team:

- a. Project Lead Information: Contact information and the identification of a project lead

## Open Phase Judging

Initial concept submissions from June 24, 2026 through July 24, 2026 at 5:00 PM ET. After the portal closes, each submission will be reviewed by Digital Promise Global ("Digital Promise") to make sure basic requirements of the challenge are met. This process will ensure that all sections of the questionnaire are complete, a primary team lead has been identified, and that the team meets the minimum requirements for participation.

## Panel Judging

Approved submissions will be assigned to a judging panel. Panel judging of the submissions will begin August 3, 2026 and conclude on or before August 28, 2026. Each submission will be assigned to two judges, and submissions will be assessed in the Ideas Challenge Portal using the following criteria:

- Innovation & Originality: The novelty and creativity of the proposed solution; how unique it is compared to existing approaches.
- Impact and Outcomes: Potential magnitude of its positive impact, and the degree to which outcome(s) could be meaningful for education leaders, policymakers, educators, parents, and/or learners
- Use of Evidence: Use of evidence to support the applicant's argument of how the solution addresses the identified problem within the selected Track.

After all assessments are complete, the scores will be averaged across judges and the concepts will be ranked. The top 27 teams, nine from each track, will advance to the Discovery Phase. Advancing submissions announced by mid-September 2026.

The 27 teams advancing to Discovery Phase will receive structured support to build a strong Theory of Change to support their initial concept. Through expert workshops and mentoring, teams will develop the theory of change needed to compete for Prize Phase funding and position their ideas for future grant opportunities. Teams with the most compelling theories of change will be best positioned to advance to the Prize Phase and compete for up to \$60,000 in total awards (\$10,000 for 9 teams selected to advance + 3 teams earning a final prize of \$50,000).

## II. Discovery Phase

The Discovery Phase will begin September 14, 2026 and conclude October 23, 2026. The Discovery Phase is designed to help the 27 selected teams (nine per track) strengthen their ideas, refine their concepts and develop the underlying logic of their proposed innovation. Teams participating in the Discovery Phase will receive support from industry experts, and engage in concept development activities. Virtual workshops on topics such as Journey Mapping and Theory of Change will be provided, along with optional office hours for more targeted support and feedback. Enhanced support will include worked examples, templates, and a resource library with annotated examples of strong theories of change to help teams navigate the more detailed deliverables required in this phase.

### Discovery Phase Deliverables

The deliverables for the Discovery Phase are a refined solution and problem statement, the Theory of Change (ToC), and an evidence and assumption log.

The refined solution and problem statement will include an updated problem statement, defining the challenge and its relevance to the ATS mission and goals, and an updated solution description, detailing the idea's key features, function, and potential impact.

The Theory of Change must clearly articulate how the proposed solution is intended to achieve intended outcomes and long-term impact. This includes specific required elements:

Input: The resources needed.

- Activities: The actions or steps needed to implement the solution.
- Output: Direct, tangible results of the activities.
- Short-term Outcomes: Immediate changes or benefits expected to result from the outputs.

- Long-term Impact: The ultimate, broader goal and lasting change the idea is designed to achieve.

The Evidence and Assumption Log should detail the evidence (including peer-reviewed scientific research citations) supporting how the proposed solution will achieve the intended outcomes and impact, along with any underlying assumptions grounding the ToC.

At the conclusion of the Discovery Phase, participants will submit all deliverables via the online Ideas Challenge Portal:

- Refined Solution and Problem Statement
- Theory of Change
- Evidence and Assumption Log (table of evidence and assumptions grounding the ToC)

## Discovery Phase Online Form

### 1. Refined Solution and Problem Statement

- a. Problem Statement (100 words max): Clearly define the problem or opportunity being addressed and its relevance to the ATS Hub's mission and goals.
- b. Description of Proposed Solution (250 words max): Detail the idea, including its key features, how it works, and potential impact.

### 2. Theory of Change (500 words max): Clearly articulate how the proposed solution will achieve the intended outcomes and long-term impact. The Theory of Change should include the following elements:

- a. Input: The resources needed.
- b. Activities: The actions or steps needed to implement the solution.
- c. Output: Direct, tangible results of the activities.
- d. Short-term Outcomes: Immediate changes or benefits expected to result from the outputs.
- e. Long-term Impact: The ultimate, broader goal and lasting change your idea is designed to achieve.

### 3. Evidence and Assumptions Log (300 words max): What peer-reviewed scientific research and additional evidence exists for how your proposed solution will achieve the intended outcomes and impact? What, if any, are the underlying assumptions grounding your theory of change?

### 4. Project Team Expertise (50 words max): What types of skills and expertise would you need to further develop your idea? Where might you find these skills and expertise?

### 5. Video Pitch - As part of your Discovery Phase submission, provide a YouTube or Vimeo link to a pitch video (max 2 minutes). We are excited to hear about your refined idea and theory of change in your own voice.

- a. Length: 2 minutes maximum.
- b. Format: URL link (YouTube or Vimeo). Set to Public or Unlisted so judges can access it.
- c. Content: Your video should briefly describe your proposed solution, the problem it addresses, and the core logic of your theory of change.
- d. AI Statement: The use of AI-generated or synthetic videos (e.g., AI avatars or text-to-video tools) is strongly discouraged. We value hearing directly from the project lead or team in the form of a simple, authentic video.

## Discovery Phase Video Guidance

Your video does not need to be professionally produced. A simple, authentic recording from the project lead or team is preferred. Judges are looking for a clear explanation of your idea, why it matters, and how you believe it could lead to better outcomes for learners.

In your 2-minute video, consider covering the following:

- 1. The problem** (about 20–30 seconds)  
Briefly describe the learner need or system challenge your idea addresses. Explain why this problem matters for student agency, durable skills, executive functioning, and/or academic content knowledge.
- 2. Your solution** (about 40–50 seconds)  
Describe what you are proposing in plain language. What is the model, policy, system, or tool? Who would use it? What would it look like in practice?
- 3. The core logic behind your idea** (about 40–50 seconds)  
Explain how your idea is expected to lead to better outcomes. What would you do? What would those activities produce? How could those outputs lead to changes for learners, educators, families, or education systems?
- 4. Why this idea is promising** (about 20–30 seconds)  
Share the strongest reason you believe the idea could work. This might include peer-reviewed research, practice-based insight, early observations, user feedback, or documented patterns from the field.
- 5. Closing** (about 10 seconds)  
End with a clear statement of the difference your idea could make if successful.

## Tips for a Strong Discovery Phase Video

Speak directly to the camera or use simple slides with voiceover. Avoid jargon and assume the viewer is hearing about your idea for the first time. The video should complement your written submission, not repeat it word-for-word.

It is fine to record on a phone, laptop, or webcam as long as the audio is clear and the video can be easily accessed by judges. Applicants should focus on clarity, authenticity, and the strength of the idea rather than production quality.

Do not include confidential student information, personally identifiable information, copyrighted media you do not have permission to use, or content that cannot be shared with reviewers. If AI tools are used to support scripting, editing, captions, or visuals, applicants should ensure the final video still represents the authentic voice and ideas of the project lead or team.

## Discovery Phase Video Checklist

Before submitting, confirm the following:

- The video is 2 minutes or less.
- The video is hosted on YouTube or Vimeo.
- The link is set to Public or Unlisted.
- The link opens without requiring a password or special permission.
- The video clearly explains the problem.
- The video clearly describes the proposed solution.

- The video explains the core logic behind how the idea could lead to better outcomes.
- The video connects the idea to learner agency, durable skills, executive functioning, and/or academic content knowledge.
- The audio is clear and easy to understand.
- The video represents the authentic voice of the project lead or team.

## Discovery Phase Judging

The Ideas Challenge Portal will accept submissions for the Discovery Phase until 5:00 p.m. ET on October 23, 2026. After the portal closes, each submission will be reviewed by Digital Promise to make sure basic requirements of the challenge are met. This process will ensure that all sections of the form are complete. Submissions will then be assigned to a judging panel for review.

Panel judging of the submissions will begin November 2, 2026 and conclude on or before November 13, 2026. Each submission will be assigned to two judges, and submissions will be assessed in the Ideas Challenge Portal using the following criteria:

- **Innovation & Originality:** The novelty and creativity of the proposed solution; how unique it is compared to existing approaches.
- **Impact and Outcomes:** Potential magnitude of its positive impact, and outcome(s) are meaningful for education leaders, policymakers, educators, parents, and/or learners
- **Feasibility:** Early-stage indicators of the practicality of implementing the solution, considering technical requirements, available resources, and realistic timelines.
- **Use of Evidence:** Use of evidence to support the applicant's argument of how the solution addresses the identified problem within the selected Track.

## Community Voting

Community voting will take place November 30, 2026 through December 11, 2026. During this period, the top-ranked submissions from the panel judging will be displayed on the ATS Hub website (sorted by track and title) for community members to review the refined concepts and theories of change and vote on their submissions. To participate, community members will be asked to authenticate using their email address, and each participant will be allowed to vote for up to 3 submissions per track.

To vote, community members must create an account and authenticate using their email address. Email verification is required during registration. Each verified account is permitted one ballot per track. The platform limits the total number of votes each user can cast across all submissions during the voting period. Note: By registering an account, you agree to our [Terms of Use](#). Any email addresses or personally identifiable information (PII) collected during this process will be used strictly for authentication and system security in accordance with our privacy policy.

Advancement to the Prize Phase is determined by a weighted composite score that combines panel judging scores and community voting results. This approach balances the rigor of expert evaluation with the engagement benefits of community participation. The proposed weighting for Discovery Phase is panel score 70% of final composite and community vote 30% of final composite. Composite scores will be calculated using panel scores from the Skipso platform and community voting data.

Both components are normalized to a 0-100 scale before weighting:

- Panel score normalization: average of judges' scores across the four Discovery Phase criteria, converted to a 0-100 scale.
- Community score normalization: percentage of total possible votes received within the submission's track, converted to a 0-100 scale.

To prevent community voting from advancing submissions that were poorly rated by expert judges, any submission must rank in at least the top 50% of panel scores within its track (i.e., top 5 of 9) to be eligible for advancement, regardless of community vote totals. Digital Promise will apply this threshold when calculating final advancement decisions.

After all panel assessments and community voting are complete, a weighted composite score will be calculated for each submission (70% panel score, 30% community vote). The top 9 teams (announced late-December 2026), three per track, will advance to the Prize Phase and develop proof-of-concept materials beginning January 4, 2027. Proof of Concept reports and 2-minute videos are due on or before March 5, 2027.

The 9 teams advancing to Prize Phase will each receive \$10,000 to conduct user research to inform the feasibility of their concept. Through dedicated mentoring and user research support, teams will develop proof-of-concept documentation that can serve as the foundation for future funding applications including IES research grants, Education Innovation and Research grants, venture funding, and philanthropic support. The Prize Phase prepares teams to seek future funding. Teams that demonstrate strong user validation and market fit will be best positioned to win one of three \$50,000 prizes.

### III. Prize Phase

The Prize Phase will begin January 4, 2027. The Prize Phase focuses on strengthening and refining ideas by gathering information from potential users, partners or other stakeholders. The nine (9) teams participating in this phase will participate in workshops to support the information gathering process and be paired with a dedicated mentor. Optional office hours will be provided for more targeted support.

#### Proof of Concept Report

The Proof of Concept report is designed to help teams refine their ideas and prepare for future funding opportunities, including IES research grants and Education Innovation and Research grants. The report should describe information gathered during the Prize Phase from potential users, partners, or stakeholders. Teams should address the following areas. Questions are provided as prompts to guide your thinking, not as a rigid checklist. Focus on the questions most relevant to your solution type. The proof of concept report will be submitted via the Ideas Challenge Portal on or before March 5, 2027.

- **Problem and Solution Validation** (400 words max)  
Demonstrate that your solution addresses a real need. Address these core questions: Do relevant stakeholders believe the problem you're addressing is pressing? What information supports this? Do potential users think your solution addresses this problem and is worth trying? What exactly are you aiming to change and how will the solution improve things?
- **Theory of Change** (500 words max)

Present your refined theory of change, incorporating feedback and information gathered from potential users and stakeholders throughout the challenge. Clearly articulate the core assumptions underlying your theory of change and how you would expect to test them in a future research or implementation context.

- **Impact and Scaling Potential** (400 words max)

Describe the potential magnitude of impact on student education outcomes. What evidence suggests your solution could be scaled to have meaningful effects on the U.S. education system?

- **Implementation and Feasibility** (500 words max)

Explain how your solution would work in practice. What are the core components that must be included in an initial, fully functioning version? Do potential users think the solution will fit into their existing routines and that they could implement it? What resources, partnerships, and conditions are necessary to build and implement your solution?

- **User Base and Context** (200 words max)

Who are the primary users and beneficiaries of your solution? How does it compare to existing alternatives or current practice?

## Prize Phase Video and Live Pitch Guidance

In addition to the Proof of Concept report, each of the 9 teams advancing to the Prize Phase will create a new 2-minute video about their refined concept and present their concept at a Live Virtual Pitch Competition in March 2027. The 2-minute videos featuring the 9 finalists must be hosted on YouTube or Vimeo, and the URL must be submitted in the Ideas Challenge Portal on or before March 5, 2027. Videos must be set to Public or Unlisted so judges and challenge administrators can access them. Prize Phase videos will be used for internal review purposes and will not be shared publicly without the team's permission.

During the Live Virtual Pitch Competition, participants will have 5 minutes to present their concept, theory of change, and information gathered throughout the challenge. The presentation will be followed by 5 minutes of Q&A. Q&A will include questions from the judging panel and crowdsourced questions from community participants.

The 2-minute video is intended to help judges and challenge administrators review the finalist concept before the Live Virtual Pitch Competition. The Live Virtual Pitch Competition gives teams additional time to present their refined concept and respond to questions from judges and community participants.

The Prize Phase video and live pitch should build on the Discovery Phase submission and Proof of Concept report. At this stage, teams should focus less on introducing the idea for the first time and more on showing what they learned, how the idea improved, and why it is ready for further development, funding, implementation, or testing.

## 2-Minute Prize Phase Video Guidance

- Length: 2 minutes maximum.
- Format: URL link from YouTube or Vimeo. The video must be set to Public or Unlisted so judges and challenge administrators can access it.
- Submission: The YouTube or Vimeo URL is submitted in the Ideas Challenge Portal on or before March 5, 2027.

Your 2-minute video does not need to be professionally produced. A simple, authentic video from the project lead or team is preferred. Judges and challenge administrators are looking for a clear explanation of what you learned, how your concept improved, and why your idea shows promise for impact, feasibility, and scaling.

In your 2-minute video, consider covering the following:

- 1. Briefly restate the problem and solution** (about 20–30 seconds)  
Start with a clear, plain-language reminder of the problem your idea addresses and the solution you are proposing. Explain who the solution is for and why the problem matters.
- 2. Share what you learned during the Prize Phase** (about 35–45 seconds)  
Describe the most important information gathered from potential users, partners, educators, learners, families, or other stakeholders. What did you learn about the need, the solution, implementation conditions, or barriers to adoption?
- 3. Explain how the idea was refined** (about 30–40 seconds)  
Describe how your concept changed or became stronger based on what you learned. This may include changes to the design, target users, implementation approach, partnerships, or assumptions behind the idea.
- 4. Describe feasibility and scaling potential** (about 30–40 seconds)  
Explain why the solution could realistically be implemented and what would be needed to scale it. Highlight the resources, partnerships, routines, or system conditions that would support implementation.
- 5. Close with impact** (about 10–15 seconds)  
End with a clear statement of the difference your idea could make for learners, educators, families, education leaders, or education systems if implemented successfully.

## Tips for a Strong 2-Minute Video

Speak directly to the camera, use simple slides with voiceover, or use a combination of both. Avoid jargon and focus on the clearest, most compelling parts of your proof-of-concept work.

The strongest videos will clearly communicate what the team learned, how the idea improved, and why the concept has promise. Avoid simply repeating the written Proof of Concept report. Instead, use the video to highlight the most important evidence, insight, or story behind the refined idea.

Prize Phase videos will be used for internal review purposes. ATS Hub will not post, embed, promote, or otherwise share Prize Phase videos publicly without the team's permission. Because teams may choose to set their video link to Public or Unlisted, teams should not include confidential student information, personally identifiable information, copyrighted media they do not have permission to use, or other sensitive content. If AI tools are used to support scripting, editing, captions, or visuals, teams should ensure the final video still represents the authentic voice and ideas of the project lead or team.

## 2-Minute Video Checklist

Before submitting, confirm the following:

- The video is 2 minutes or less.
- The video is hosted on YouTube or Vimeo.
- The link is set to Public or Unlisted.

- The link opens without requiring a password or special permission.
- The YouTube or Vimeo URL is submitted in the Ideas Challenge Portal on or before March 5, 2027.
- The video clearly restates the problem and proposed solution.
- The video shares what the team learned from potential users, partners, or stakeholders.
- The video explains how the idea was refined during the Prize Phase.
- The video addresses feasibility, implementation, and/or scaling potential.
- The video connects the idea to meaningful learner, educator, or system outcomes.
- The audio is clear and easy to understand.
- The video is appropriate to be shared with judges and challenge administrators.
- The video represents the authentic voice of the project lead or team.

## Live Virtual Pitch Guidance

The Live Virtual Pitch Competition is an opportunity for teams to present their refined concept directly to judges and community participants. The live pitch should go deeper than the 2-minute video and should clearly connect the team's proof-of-concept work to the solution's potential for impact, feasibility, and scalability.

In the 5-minute live pitch, teams should consider covering:

### 1. **The problem and why it matters**

Briefly describe the problem or opportunity your idea addresses and why it matters for learners, educators, families, or education systems.

### 2. **The refined solution**

Explain your concept in plain language, including who would use it, how it would work, and what makes it different from current practice or existing alternatives.

### 3. **Theory of change**

Describe how your solution is expected to lead to better outcomes. Explain the key activities, outputs, short-term outcomes, and long-term impact in a clear and concise way.

### 4. **What you learned throughout the challenge**

Share the most important insights gathered from user research, stakeholder feedback, mentoring, workshops, or other Prize Phase activities. Explain how those insights shaped the idea.

### 5. **Feasibility and scalability**

Describe what would be needed to implement the solution in practice and what evidence suggests it could scale. This may include resources, partnerships, user routines, technical requirements, policy conditions, or implementation supports.

### 6. **Closing case for impact**

End with a clear and compelling statement of why your idea deserves continued support and what difference it could make if implemented successfully.

## Tips for the Live Pitch and Q&A

Teams should use the 5-minute pitch to tell a focused story about the problem, solution, evidence, feasibility, and potential impact. The pitch should not try to cover every detail from the Proof of Concept report. Instead, it should highlight the strongest points judges and community participants need to understand.

For the 5-minute Q&A, teams should be prepared to answer questions about their evidence base, assumptions, implementation plan, user feedback, feasibility, scalability, and potential impact. Teams may also be asked to explain tradeoffs, limitations, risks, or what they would test next with additional funding.

### Live Pitch Checklist

Before the Live Virtual Pitch Competition, confirm that:

- The presentation is 5 minutes or less.
- The pitch clearly explains the problem and proposed solution.
- The pitch explains the theory of change in plain language.
- The pitch includes information gathered throughout the challenge.
- The pitch explains how the idea was refined based on feedback or learning.
- The pitch addresses feasibility, implementation, and scalability.
- The pitch clearly connects the idea to meaningful learner, educator, or system outcomes.
- The team is prepared for 5 minutes of Q&A.
- The team can answer questions about evidence, assumptions, limitations, and next steps.
- The presentation is clear, accessible, and appropriate for both judges and community participants.

### Prize Phase Judging

Judging for the Prize Phase will consist of both panel judging and community voting. Community voting will take place during the live pitch competition and remain open for 24 hours following the conclusion of the final presentation.

During the pitch competition, the judges will also score each of the pitches using the following criteria:

- Novelty and potential for impact
- Grounding in research, evidence, and documented practice.
- Feasibility and scalability

Community members must authenticate their email address (same authentication standards as the Discovery Phase). Each voter may cast one vote per track.

The final winner selection (one per track) is determined by a weighted composite score with panel judging comprising 75% of final composite and community vote comprising 25% of final composite. Both components are normalized to a 0-100 scale before weighting, using the same method as the Discovery Phase (panel is average of criterion scores; community is percentage of total track votes). Composite scores will be calculated by Digital Promise staff using panel scores from the Skipso platform and community voting data.

The same panel floor rules apply. A submission must rank in at least the top 50% of panel scores within its track (i.e., top two of three) to be eligible to win, regardless of community vote totals.

The proof-of-concept work, user feedback, and refined theory of change developed during this phase create a strong foundation for teams to pursue funding to support future evidence generation and implementation through IES research grants, Education Innovation and Research (EIR) grants, venture funding, or partnership with education organizations. All Prize Phase deliverables are specifically

designed to align with IES Seedlings to Scale application requirements, meaning teams will have completed substantial portions of a future grant application through their participation in this challenge. Whether or not they win the \$50,000 prize, all Prize Phase teams will have developed the documentation, theory of change, and pitch materials needed to seek funding to bring their ideas to scale. We anticipate announcing the final 3 winners of the Ideas Challenge late-March 2027.

This material was developed under [The Institute of Education Sciences Award R305N250006](#) from the U.S. Department of Education. Any opinions, findings, conclusions, or recommendations are those of the authors and do not necessarily reflect the views of IES.